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The glazed tiles from the Qutb Shahi Tombs complex (Hyderabad, India): morphological and compositional characterization

P. Davit⁽¹⁾, A. Idone⁽¹⁾, S. Barbiero⁽¹⁾, C Balakrishnan⁽²⁾, M. Gulmini⁽¹⁾

(1) *Dipartimento di Chimica–Università degli Studi di Torino, Via P. Giuria, 7, I-10125, Torino, Italy.*

(2) *QuliQutb Shah Herit. Park–Aga Khan Trust for Culture, Hyderabad, 500 008 Andhra Pradesh, India*

The Qutb Shahi Tombs complex in Hyderabad is the largest necropolis in the Deccan region. The site comprises 72 structures built during the 16th and 17th centuries. The striking features of these monuments are the incised lime plasterwork and the glazed tilework, which is currently hardly observable due to the detachment of the tiles during time.

Presently, the Tombs are the object of an integrated conservation, restoration and landscape development project carried out by the Aga Khan Trust for Culture and the Aga Khan Foundation and the Department of Archaeology and Museums (Govt. of Telengana, India) in the respect of the original production methods. A scientific investigation on fragments of glazed tiles found in a pit in the lower chamber of the Tomb of Mohamed Quli Qutb - IV king (1580 – 1612) was carried out in order to gain information on the production technology. The glazes show nine different colours, namely two shades of green, yellow, orange, Persian blue, sky blue, white, grey and purple-brown. The investigation was carried out by optical microscopy, scanning electron microscopy coupled with microanalysis and Raman spectroscopy.

The analysis highlights the tile bodies as “stonepaste” (quartz grains are predominant), directly linking them to high quality glazed Islamic ceramic and shows that bodies and glazes are separated by a slip layer constituted by finer quartz grains. The green, yellow and orange glazes are lead-soda-silica type opacified/coloured by tin-lead and tin-lead-zinc compounds with copper as colouring agent in the green fragments. The others are soda-silica type with cobalt, iron and manganese as colourants, while the white glaze was obtained by exploiting the opacifying effect of air bubbles dispersed in the glaze over the white slip.

The compositional and morphological features of the tiles were then compared with those of coeval tiles in the Mughal area [1-2].

[1] M.S. Gill, T. Rehren, I. Freestone. Tradition and indigeneity in Mughal architectural glazed tiles, *J. of Archaeol. Sci.*, 49, 2014, 546–555

[2] S. Gulzar, M. Wörle, J-P. Burg, M. N. Chaudhry, E. Joseph, E. Reusser. Characterization of 17th Century Mughal tile glazes from Shahdara Complex, Lahore-Pakistan, *J. Cult. Herit.* 14, 2013, 174-179